

Application No. 10/676,673
Amendment dated August 21, 2007
Reply to Office Action of May 23, 2007

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Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A printhead assembly comprising:
an ink supply coupled to the printhead assembly for providing ink drops;
a nozzle member coupled to the ink supply and having plural nozzles,
wherein a predefined number of nozzles are ~~intentionally~~ offset;
a heater array with heater elements coupled to the nozzle member; and
a controller that receives print data, wherein the controller is configured to assign pixel locations of the ink drops based on the print data and then register the pixel locations at respective firing addresses and to analyze the data to determine a firing pulse rate of the heater elements in the heater array for controlling the ejection of ink drops from the plural nozzles to maintain accuracy and precision of ink droplet placement by limiting the number of nozzles that fire at a given time while simultaneously decreasing a data pulse rate of firing of each nozzle at the given time.
2. (Original) The printhead assembly of claim 1, wherein data rates, memory, power and ink supply are decreased.
3. (Original) The printhead assembly of claim 1, further comprising a heater array with heater elements for heating the ink, wherein the controller selects elements in the heater array to be fired.

Application No. 10/676,673
Amendment dated August 21, 2007
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4. (Original) The printhead assembly of claim 3, wherein the controller decreases the data rate to the heater element array so that the firing rate by the nozzle member is decreased.

5. (Original) The printhead assembly of claim 4, wherein the printhead assembly requires less power and less ink when the data firing rate decreases.

6. (Original) The printhead assembly of claim 1, wherein the controller determines a firing order of the nozzles in at least one of a single or multiple swath.

7. (Previously Presented) The printhead assembly of claim 1, wherein a portion of the nozzles of the nozzle member are aligned horizontally with dot column correction.

8. (Previously Presented) The printhead assembly of claim 1, wherein a predefined number of nozzles are offset to allow reduction of the data rate, amount of ink drops and firing frequency in a single print swath.

9. (Original) The printhead assembly of claim 1, the controller determines a firing order of the nozzles to produce an ordered pattern that reduces banding on a print media.

10-14 (Cancelled)

15. (Currently Amended) A method for producing accurate ink drop placement produced by a printhead having plural nozzles, the method comprising:

providing a supply of ink to the printhead;
using a heater array with heater elements;

Application No. 10/676,673
Amendment dated August 21, 2007
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~~intentionally~~ offsetting a predefined number of the nozzles to allow reduction of a data rate, amount of ink drops and firing frequency in a single print swath;

analyzing print data to determine a firing pulse rate of the heater elements in the heater array for controlling ejection of the ink from the plural nozzles to maintain accuracy and precision of ink droplet placement;

assigning pixel locations of the ink drops and then registering the pixel locations at respective firing addresses; and

limiting the number of nozzles that fire at a given time while simultaneously and selectively decreasing a data rate of firing of each nozzle at the given time.

16. (Original) The method of claim 15, further comprising heating the ink with a heater array having heater elements and selecting elements in the heater array to be fired.

17. (Original) The method of claim 16, further comprising decreasing the data rate to the heater element array so that the data rate of firing by the nozzle member is decreased.

18. (Previously Presented) The method of claim 15, further comprising horizontally aligning the nozzles of the nozzle member with dot column correction.

19. (Cancelled)

20. (Previously Presented) The method of claim 15, further comprising determining a firing order of the nozzles to produce an ordered pattern that reduces banding on a printed output produced by the printhead.